

**REMARKS**

Applicants' undersigned attorney thanks the Examiner for the Examiner's comments. Applicants respectfully request reconsideration of this patent application, particularly in view of the above Amendment and the following remarks. Currently, Claims 1-43 are pending, with Claims 29-43 withdrawn from consideration.

**Amendments to the Claims**

Claims 1-28 have been examined, and no claims have been allowed.

Claim 1 has been amended to clarify that the cathodic corrosion protection is a property that results from the method.

No new matter has been added by this Amendment. No additional fee is required because the number of independent claims remains unchanged and the total number of claims also remains unchanged.

**Claim Rejections - 35 U.S.C. §112**

Claim 1 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants have amended Claim 1 to clarify that the cathodic corrosion protection is a property that results from the method, rather than an element used to carry out the method.

In view of this Amendment, Applicants respectfully submit that amended Claim 1 is not indefinite. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**Claim Rejections - 35 U.S.C. §103****A. Kefferstein et al. in view of Chambaere et al.**

The rejection of Claims 1, 3, 4, 5, 9, 10, 18, 19, 24, 25, and 28 under 35 U.S.C. §103(a) as being unpatentable over Kefferstein et al. (U.S. Patent No. 6,564,604) in view of Chambaere et al. (U.S. Patent No. 4,978,586) is respectfully traversed.

The Kefferstein reference fails to disclose or suggest the step of "roller-profiling" the coated sheet steel. Instead, the Kefferstein reference discloses only two possible ways of making a hardened steel part. One way is to heat the blank and then to form it by deep drawing, rather than roller-forming, which includes cooling it rapidly in the die to obtain the

hardened steel part. The other way is to form the part out of the blank in the cold state by deep drawing and, afterwards, heating the part to the austenitization temperature and subsequently rapidly cooling the formed and heated part. The Chambaere reference also fails to disclose or suggest the step of “roller-profiling” the coated sheet steel.

In paragraph [0078] of the subject application, Applicants point out that the examples show that, following the heat treatment, only the sheets used in accordance with the invention for roller forming still offer cathodic corrosion protection with a cathodic corrosion protection energy  $>4 \text{ J/cm}^2$ .

Furthermore, Kefferstein fails to disclose or suggest the admission of atmospheric oxygen to the parts during heating. In fact, Kefferstein touts a method in which the atmosphere does not have to be controlled (Col. 3, lines 8-12; Claim 6). In contrast, Applicants’ claimed invention recites the admission of atmospheric oxygen to the parts during heating in order to form a very thin skin made of an oxide of the element(s) with affinity to oxygen on the outer surface of the coating, which imparts cathodic corrosion protection. Kefferstein fails to disclose or suggest such a coating, nor can such a coating be seen from the drawings in the Kefferstein reference. Thus, it appears that the non-controlled atmosphere in Kefferstein means that by burning the fuel in the furnace there is not enough oxygen in the furnace atmosphere.

The Office Action erroneously states that “Kefferstein discloses a method for producing a hardened profiled structural part, but does not disclose such a method with a zinc oxide coating.” First of all, the structural parts in Kefferstein are not profiled. Second of all, neither Kefferstein nor Applicants’ claimed invention disclose a zinc oxide coating. Kefferstein discloses a coating of zinc-iron or zinc-iron-aluminum. Applicants’ claimed invention recites a coating of zinc and zinc-iron with a protective very thin aluminum oxide layer on top.

Additionally, none of the steps recited in Applicants’ Claims 3, 4, and 5 are disclosed or suggested in Kefferstein, particularly since Kefferstein fails to disclose or suggest profiling by roll-profiling or punching hole cut-outs or the like.

With respect to Claim 9, Applicants’ claimed invention recites cooling the roller profiled part with water. Kefferstein fails to disclose or suggest water as a coolant.

The Chambaere reference fails to overcome the deficiencies of the Kefferstein reference. In fact, Chambaere discloses a steel substrate with a metal coating for the

reinforcement of vulcanizable elastomers and, thus, has nothing to do with Applicants' claimed invention. Additionally, Chambaere fails to disclose a hardening step in a furnace. Consequently, there is no suggestion or motivation for a person skilled in the art to combine the teachings of Chambaere with the teachings of Kefferstein. Even if a person skilled in the art combined the teachings of these two references, the resulting method would be much different than Applicants' claimed invention, since neither of these two references, alone or in combination, discloses or suggests the steps of roller-profiling a coated sheet steel or controlling the admission of atmospheric oxygen to the parts during heating in order to form a very thin skin made of an oxide of the element(s) with affinity to oxygen on the outer surface of the coating to impart cathodic corrosion protection.

Furthermore, with respect to Claim 19, the Chambaere reference discloses heating up the coating made from **brass** to have an oxide layer and, since zinc has more oxygen affinity than copper, this layer will be made from zinc oxide. In contrast, in Applicants' claimed invention zinc oxide is not mentioned and is not desired, but rather aluminum oxide is a desired result. Additionally, Applicants' claimed invention teaches away from the inclusion of brass.

For at least the reasons given above, Applicants respectfully submit that the teachings of Kefferstein et al. in view of Chambaere et al. fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**B. Kefferstein et al. in view of Chambaere et al. and Ritter et al.**

The rejection of Claim 2 under 35 U.S.C. §103(a) as being unpatentable over Kefferstein et al. in view of Chambaere et al. as applied to Claim 1 above, and further in view of Ritter et al. (U.S. Patent No. 5,316,052), is respectfully traversed.

As explained above, Kefferstein in view of Chambaere fails to disclose or suggest a method for producing a hardened profiled structural part from a hardenable steel alloy, wherein the hardened profiled structural part has cathodic corrosion protection. In particular, neither Kefferstein nor Chambaere disclose or suggest such a method including the step of "roller-profiling" the coated sheet steel. Additionally, neither of these references discloses or suggests such a method in which the admission of atmospheric oxygen to the parts is controlled during heating in order to form a very thin skin made of an oxide of the element(s) with affinity to oxygen on the outer surface of the coating, which imparts cathodic corrosion

protection. The Ritter reference fails to overcome the deficiencies of Kefferstein and Chambaere. In fact, neither Chambaere nor Ritter discloses or suggests a hardening step.

For at least the reasons given above, Applicants respectfully submit that the teachings of Kefferstein et al. in view of Chambaere et al. and further in view of Ritter et al. fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**C. Kefferstein et al. in view of Chambaere et al. and Ferguson**

The rejection of Claims 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over Kefferstein et al. in view of Chambaere et al. as applied to Claim 1 above, and further in view of Ferguson (U.S. Patent No. 4,830,683), is respectfully traversed.

As explained above, Kefferstein in view of Chambaere fails to disclose or suggest a method for producing a hardened profiled structural part from a hardenable steel alloy, wherein the hardened profiled structural part has cathodic corrosion protection. In particular, neither Kefferstein nor Chambaere disclose or suggest such a method including the step of "roller-profiling" the coated sheet steel. Additionally, neither of these references discloses or suggests such a method in which the admission of atmospheric oxygen to the parts is controlled during heating in order to form a very thin skin made of an oxide of the element(s) with affinity to oxygen on the outer surface of the coating, which imparts cathodic corrosion protection. The Ferguson reference fails to overcome the deficiencies of Kefferstein and Chambaere. In fact, neither Chambaere nor Ferguson discloses or suggests a hardening step.

For at least the reasons given above, Applicants respectfully submit that the teachings of Kefferstein et al. in view of Chambaere et al. and further in view of Ferguson fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**D. Kefferstein et al. in view of Chambaere et al. and Edmonds et al.**

The rejection of Claims 8, 26, and 27 under 35 U.S.C. §103(a) as being unpatentable over Kefferstein et al. in view of Chambaere et al. as applied to Claim 1 above, and further in view of Edmonds et al. (U.S. Patent No. 6,178,800), is respectfully traversed.

As explained above, Kefferstein in view of Chambaere fails to disclose or suggest a method for producing a hardened profiled structural part from a hardenable steel alloy, wherein the hardened profiled structural part has cathodic corrosion protection. In particular, neither Kefferstein nor Chambaere disclose or suggest such a method including the step of

“roller-profiling” the coated sheet steel. Additionally, neither of these references discloses or suggests such a method in which the admission of atmospheric oxygen to the parts is controlled during heating in order to form a very thin skin made of an oxide of the element(s) with affinity to oxygen on the outer surface of the coating, which imparts cathodic corrosion protection. The Edmonds reference fails to overcome the deficiencies of Kefferstein and Chambaere. In fact, neither Chambaere nor Edmonds discloses or suggests a hardening step.

For at least the reasons given above, Applicants respectfully submit that the teachings of Kefferstein et al. in view of Chambaere et al. and further in view of Edmonds et al. fail to disclose or suggest Applicants’ claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**E. Kefferstein et al. in view of Chambaere et al. and Kim et al.**

The rejection of Claim 11 under 35 U.S.C. §103(a) as being unpatentable over Kefferstein et al. in view of Chambaere et al. as applied to Claim 1 above, and further in view of Kim et al. (U.S. Patent Publication No. 2003/0059643), is respectfully traversed.

As explained above, Kefferstein in view of Chambaere fails to disclose or suggest a method for producing a hardened profiled structural part from a hardenable steel alloy, wherein the hardened profiled structural part has cathodic corrosion protection. In particular, neither Kefferstein nor Chambaere disclose or suggest such a method including the step of “roller-profiling” the coated sheet steel. Additionally, neither of these references discloses or suggests such a method in which the admission of atmospheric oxygen to the parts is controlled during heating in order to form a very thin skin made of an oxide of the element(s) with affinity to oxygen on the outer surface of the coating, which imparts cathodic corrosion protection. The Kim reference fails to overcome the deficiencies of Kefferstein and Chambaere. In fact, neither Chambaere nor Kim discloses or suggests a hardening step.

For at least the reasons given above, Applicants respectfully submit that the teachings of Kefferstein et al. in view of Chambaere et al. and further in view of Kim et al. fail to disclose or suggest Applicants’ claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**F. Kefferstein et al. in view of Chambaere et al. and Imai et al.**

The rejection of Claims 12-17 and 20-23 under 35 U.S.C. §103(a) as being unpatentable over Kefferstein et al. in view of Chambaere et al. as applied to Claim 1 above,

and further in view of Imai et al. (WIPO Publication No. WO 03/0335922), is respectfully traversed.

As explained above, Kefferstein in view of Chambaere fails to disclose or suggest a method for producing a hardened profiled structural part from a hardenable steel alloy, wherein the hardened profiled structural part has cathodic corrosion protection. The Imai reference fails to overcome the deficiencies of Kefferstein and Chambaere.

Furthermore, the Imai reference strives to achieve a zinc oxide coating. In contrast, a zinc oxide coating would be detrimental if formed in the method of Applicants' claimed invention. A zinc layer with a small amount of aluminum in it is mentioned in the Imai reference, but the Imai reference does not disclose other protective layers than protective layers of zinc oxide. The Imai reference also does not disclose any beneficial properties of other types of protective layers other than zinc oxide.

For at least the reasons given above, Applicants respectfully submit that the teachings of Kefferstein et al. in view of Chambaere et al. and further in view of Imai et al. fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

### **Conclusion**

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner feels that any issues remain regarding this Amendment, then Applicants' undersigned attorney would like to discuss the case with the Examiner. Applicants sincerely believe that this Patent Application is now in condition for allowance and, thus, respectfully request early allowance.

Applicants believe no fees are due with respect to this filing. However, should the Office determine fees are necessary, the Office is hereby requested to contact the undersigned to arrange for payment.

Respectfully submitted,

/Melanie I. Rauch/

**SIGNATURE OF PRACTITIONER**

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